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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

5486-US-PA

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Application Number

10065091

Filed

2002-09-17

First Named Inventor

Fang-Chen Luo

Art Unit

2871

Examiner

RUDE, TIMOTHY L.

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

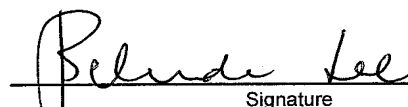
I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒ attorney or agent of record.
Registration number 46,863

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____


Signature

Belinda Lee

Typed or printed name

011-886-2-2369-2800

Telephone number

March 11, 2009

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 2871

Attorney Docket: 5486-US-PA

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ARGUMENTS

This application was subjected to a Final Rejection on December 11, 2008, wherein claims 56-59 and 62-67 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tanada et al (US 2002/0054257, hereinafter "Tanada") in view of Nakai et al. (US 4,257,832, hereinafter "Nakai"), and claims 56-59 and 62-67 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tanada in view of Ogawa et al. (US 6,122,027, hereinafter "Ogawa") and further in view of Nakai.

In response to the Non-Final Rejection dated June 13, 2008, Applicants filed on May 6, 2008 amendments and the following remarks for explaining the non-obviousness of claims 56-59 and 62-67.

Features of the currently pending independent claim 56/67 include: 1) that *a planar color filter layer over the conformal reflective layer, wherein planar color filter layer has a substantially planar upper surface and a (bumpy) bottom surface that conformably and fully covers the conformal reflective layer;* and 2) that *a first transparent conductive layer conformably and directly on the planar color filter layer,* wherein the first transparent conductive layer is connected to a thin film transistor for controlling the liquid crystal layer and the conformal reflective layer is electrically isolated from the first transparent conductive layer.

Tanada in view of Nakai or Tanada in view of Ogawa and further in view of Nakai fails to disclose the feature 1 or 2.

As shown in Fig. 1 of Tanada and described in related paragraphs [0035] to [0038], at the liquid crystal layer 30 side of the first substrate 10, an organic film 11 for corrugating a reflection film 12, a metallic reflection film 12 for reflecting light entering

the liquid crystal display, color filters 13 for performing color display, **an overcoat film 14 for protecting the organic film 11 and the metallic reflection film 12 as well as for planarizing the corrugation due to the organic film 11 and the color filters 13,** electrode layers 15....are deposited in that order. In brief, Tanada teaches that **an overcoat film 14** is formed on color filters 13 **for planarizing the corrugation** due to the organic film 11 and the color filters 13. Tanada also teaches that **the electrode layers 15 are deposited directly on the overcoat film 14** and not on the color filters 13.

It is also noted that Nakai was relied on to teach the feature of a TFT, and Nakai also fails to disclose features 1 and 2 in claim 56.

As shown in Figure 8, Ogawa teaches **a gate insulating film 133 with a planar top surface** is formed on the reflective films 102 and color filters 103a-103c and black matrixes 131a-131c are formed on the gate insulating film 133. In brief, color filters 103a-103c of Ogawa are formed with a planar bottom surface and a planar top surface. **Ogawa further discloses that in order to improve smoothness and increase insulating effect, a protecting layer may be laid between the color filters 103 and the first transparent electrodes 105 (column 9, lines 20-24).**

Against the above features 1-2 and Applicants' arguments, Examiner argued:

a. The color filter layer comprising overcoat layer of Tanada does completely cover the formal reflective layer. Color filter layers in the art have long comprised clear regions, planarization portions and opaque (black mask) regions. The applied prior art color filter layer reasonably reads on Applicant's present broad claim limitations.

b. Ogawa teaches a display having color filters that do not comprise an overcoat

layer. This proves the overcoat layer of Tanada was known to be not essential to such a reflective color filter display, which makes it obvious that the overcoat layer is optional.

c. It has long been well known in the art that color filters planarize (form planar top surfaces despite non-planar bottom surface); deliberate process steps are needed to force such surfaces to be non-planar.

Applicants submit that the argument a by the Office is unreasonable for the reasons below.

One skilled in art may consider a color filter substrate be comprised of a color filter layer, a black matrix, and possibly an overcoat layer. A skilled artisan will not consider a color filter layer be comprised of a color filter layer, the black matrix, and an overcoat layer. Even according to the teachings of the references cited by the Office, both Tanada and Ogawa consider the color filter layer being just the color filter layer itself and not including an overcoat layer. In fact, Tanada and Ogawa specifically teach forming an overcoat layer to improve smoothness and increase of insulation of the color filter layer. According to the definition of Wikipedia, as presented in the Response dated September 12, 2008, a color filter layer is a transparent colored material that is used in theatre, event production, photograph, videography and cinematograph to color light and for color correction. Hence, even by the broadest interpretation, a color filter layer could not be construed to include an overcoat layer or a black matrix, and none of the cited reference teaches or suggests a color filter layer with a planar top surface and a non-planar bottom surface, and a transparent conductive layer directly on the planar color

filter layer.

Applicants submit that the argument b by the Office is unreasonable for the reasons below.

Ogawa does not teach color filters having a non-planar bottom surface. Instead, Ogawa teaches color filters having a planar bottom surface. Hence, the top surface of the color filters could be correspondingly planar. Even so, Ogawa still teaches the application of that “a protection layer be laid between the color filters 103 and the transparent electrodes 105” (col. 9, ln. 20-23). Hence, the Office errs in concluding that the overcoat layer of Tanada is “optional” based on the teachings of Ogawa. The present invention teaches a color filter layer formed with a non-planar (bumpy) bottom surface but with a planar upper surface so that the transparent electrode can form directly on the color filter layer and an overcoat layer is obviated.

Applicants submit that the argument c by the Office is unreasonable for the reasons below.

The Office errs in concluding that the top surface of color filters are naturally planarized even the bottom surface is non-planar and deliberate process steps are needed to force such surfaces to be non-planar. In the IDS (US patent 6597421, Hatanaka et al.) submitted on January 22, 2007, Hatanaka discloses a color filter layer having a non-planar bottom surface has a corresponding non-planar top surface and a flattened layer is provided thereon to obtain the desire planarity, while a color filter layer having a planar

bottom surface correspondingly has a substantially planar top surface. Hence, the conventional arts, such as Ogawa and Hatanaka, basically teach in order for a color filter layer to have a planar top surface, either the bottom surface thereof is planar or an overcoat layer is formed thereon for planarization.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983) (MPEP 2141.02)

Where the teachings of two or more prior art references conflict, the examiner must weigh the power of each reference to suggest solutions to one of ordinary skill in the art, considering the degree to which one reference might accurately discredit another. *In re Young*, 927 F.2d 588, 18 USPQ2d 1089 (Fed. Cir. 1991) (MPEP 2143.01). The combination of color filter layers from Tanada with bumpy bottom surface and Ogawa with planar bottom surface shows the conflict to each other.

The present invention provides a planar color filter to planarize the bumpy reflective layer (bumpy bottom surface), so that the transparent conductive layer can be directly formed on the planar color filter to provide uniform cell gap.

Accordingly, Applicants still submit that because Tanada in view of Nakai or Tanada in view of Ogawa and further in view of Nakai fails to disclose or suggest any of

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the above features 1-2 of claim 56 and 67, claims 56, 67 and claims 57-59, 62-66
dependent therefrom are non-obvious.

Date :

March 10, 2009

Respectfully submitted,

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